Interface Control Document (ICD)
Between the
Image Assessment System (IAS)
and the
Landsat 7 Processing System (LPS)

Revision 21

January 12July 29, 19986

GODDARD SPACE FLIGHT CENTER
GREENBELT, MARYLAND

Interface Control Document (ICD)
Between the
Image Assessment System (IAS)
and the
Landsat 7 Processing System (LPS)
Revision 21

January 12July 29, 19986

RevisedPrepared by:

Robert SchweissTanweer Aslam
Date
Systems Engineering Manager
Landsat 7 Processing System
Computer Sciences Corporation

Reviewed by:

Nate Danials Robert Schweiss
Date
Systems Engineering ManagerElement Manager, CNMOS
Landsat 7 Processing System
Computer Science CorpCode 514.2
Goddard Space Flight Center

Shaida Johnston Date
System Engineer
Image Assessment System
Science Systems and Applications, Inc.

ConcurredApproved by:

Joy Henegar Date
Project Manager
ETM+ Processing System (EPS)
Code 514.1
Goddard Space Flight Center

Cocurred by:

Darla Werner Date
Ground Systems Manager
Landsat 7 Project
EROS Data Center (EDC)

Approved by:

Ludie KiddRobert Menrad
Date
Ground Systems ManagerL7 Implmentation Manager
Landsat 7 Project
Code 581502
Goddard Space Flight Center

List of TBDs/TBRs

There are no TBDs and TBRs in this document.

Section	Description
1.4	IAS host processor is not known.
	Details on the EDC LAN are unknown.
3.2.8	Details on the EDC LAN are unknown.
Table 3-2	The LPS host/operations console names, IP addresses are unknown.
	Details on the network routers used at EDC are unknown.
	The IAS host names and IP addresses are unknown.

CHANGE STATUS LOG

DOCUMENT NO. **514-1ICD/0195**

TITLE **Interface Control Document (ICD) Between the Image Assessment System (IAS) and the Landsat 7 Processing System (LPS)**

CHANGE	DATE	AFFECTED PAGES	REMARKS
Review	**3 November 1995**	**All**	**Review**
Signature	**31 January 1996**	**All**	**Signature**
Revision 1	**29 July 1996**	**All**	**CCRs: LPS960094 and IAS and LPS comments**
Revision 2	12 Jan 1998	ii, iii,2-1,2-2,3-1 thru 3-6, 3-8,3-9,3-10,3-11, AC-1	CCRs: LPS980251 and editorial changes

Abstract

This Interface Control Document (ICD) presents the functional, performance, operational, and design requirements for the interface between the (Landsat 7) Image Assessment System (IAS) and the Landsat 7 Processing System (LPS) .

This document provides a current understanding of the definition of the information and products transferred between the IAS and the LPS. This interface control document will be baselined by the IAS and LPS Projects for developing and implementing the interface between the IAS and the LPS.

Keywords: Interface Control Document (ICD)
Image Assessment System (IAS)
Landsat 7 Processing System (LPS)

Preface

The purpose of this interface control document (ICD) is to provide complete information concerning the information and products to be transferred between the Image Assessment System (IAS) and the Landsat 7 Processing System (LPS) in support of the Landsat 7 Ground Segment (GS). The contents in this ICD are complete to a level sufficient to develop and operate the interface; therefore, the document is intended for use only by those directly involved with the mission and/or facilities involved. No attempt has been made to relate this ICD to the total Landsat 7 ground system or to nonpertinent aspects of the facilities/organizations involved.

This ICD is controlled jointly by the Image Assessment System (IAS) Project and the Landsat 7 Processing System Project and may be updated by the Document Change Notice (DCN) and/or revision procedures . Comments and questions regarding this ICD should be directed to:

Landsat 7 Processing System Project
Code 586514.1
Goddard Space Flight Center
Greenbelt, MD 20771

(Landsat 7) Image Assessment System Project
Code 430430 / EDC
Goddard Space Flight Center
Greenbelt, MD 20771

Table of Contents

Section 1 — Introduction

1.1 Purpose 1-1
1.2 Mission Phases 1-1
1.3 Mission-Specific Characteristics 1-1
1.4 Facilities/Systems 1-1

Section 2 — Applicable Documents

2.1 Applicable Documents 2-1
2.2 Reference Documents 2-1

Section 3. Interface Design

3.1 Product Summary Chart 3-1
3.2 Landsat 7 Calibration Parameter File 3-2
3.2.1 Description 3-2
3.2.2 Mission Phase 3-4
3.2.3 Format 3-4
3.2.4 Accuracy/Completeness 3-4
3.2.5 Data Transfer 3-4
3.2.6 Delivery Schedule 3-5
3.2.7 Timespan 3-5
3.2.8 Transmission Medium 3-6
~~3.2.8.1 Description ..... 3-6~~
~~3.2.8.2 Prime Medium ..... 3-6~~
~~3.2.8.3 Backup Medium ..... 3-6~~
3.2.9 Volume Estimate 3-6
3.2.10 Security Exceptions 3-6
3.3 Reprocessing Request ..... 3-6~~7~~
3.3.1 Description ..... 3-6~~7~~
3.3.2 Mission Phase ..... 3-6~~7~~
3.3.3 Format ..... 3-7~~8~~
3.3.4 Accuracy/Completeness ..... 3-7~~8~~
3.3.5 Data Transfer ..... 3-8~~9~~
3.3.6 Delivery Schedule ..... 3-8~~9~~
3.3.7 Timespan ..... 3-8~~9~~
3.3.8 Transmission Medium ..... 3-8~~9~~
3.3.8.1 Description ..... 3-8~~9~~
3.3.8.2 Prime Medium ..... 3-8~~9~~
3.3.8.3 Backup Medium ..... 3-8~~9~~

3.3.9 Volume Estimate....3-910
3.3.10 Security Exceptions....3-190
3.4 Reprocessing Request Disposition....3-910
3.4.1 Description....3-910
3.4.2 Mission Phase....3-910
3.4.3 Format....3-910
3.4.4 Accuracy/Completeness....3-1011
3.4.5 Data Transfer....3-101
3.4.6 Delivery Schedule....3-101
3.4.7 Timespan....3-101
3.4.8 Transmission Medium....3-101
3.4.8.1 Description....3-101
3.4.8.2 Prime Medium....3-1011
3.4.8.3 Backup Medium....3-112
3.4.9 Volume Estimate....3-112
3.4.10 Security Exceptions....3-112

Abbreviations And Acronyms

List of Figures

Figure 1-1: IAS-LPS Facilities/Systems Flow Diagram.....1-3

List of Tables

Table 3-1: Interface Product Summary Chart.....3-1
Table 3-2 Landsat 7 Calibration Parameters File Transmission - Prime Medium 3-7

Section 1 — Introduction

1.1 Purpose

This interface control document (ICD) defines the data transfer interface between the Image Assessment System (IAS) and the Landsat 7 Processing System (LPS) in support of the Landsat 7 Ground Segment. Specific details on the format of the data transferred between the IAS and the LPS are provided in the Landsat 7 Calibration Parameter File Definition document (Applicable Document 2.1.1).

1.2 Mission Phases

The following mission phases are pertinent to the IAS-LPS interface:

- Mission Readiness Testing
- In-Orbit Testing
- Normal Mission Operations

These mission phases are defined in Applicable Document 2.2.1.

1.3 Mission-Specific Characteristics

None.

1.4 Facilities/Systems

Figure 1-1 depicts the IAS-LPS Facilities/Systems Flow Diagram representing the facilities/systems committed for supporting the IAS-/LPS interface. See Applicable Document 2.1.5 (EDC Landsat 7 Network System Description) for more details of the physical connectivity. . The following facilities/systems are committed:

- EDC Telephone System – supports voice communication of reprocessing requests and reprocessing request disposition information between the IAS and LPS operators.
- TBD IAS hosts – support the transmission of Landsat 7 calibration parameter file to the LPS operations consoles.

- ~~**TBD**~~ Earth Resources Observation System Data Center (EDC) ~~Ethernet~~Exchange —Local Area Network (LAN) – supports the transmission of Landsat 7 calibration parameter file from the IAS hosts to the LPS operations consoles.
- LPS Operations Consoles – support the receipt of Landsat 7 calibration parameter file from the IAS hosts. The LPS operations consoles consist of Silicon Graphics Incorporated (SGI) Indy series workstations.

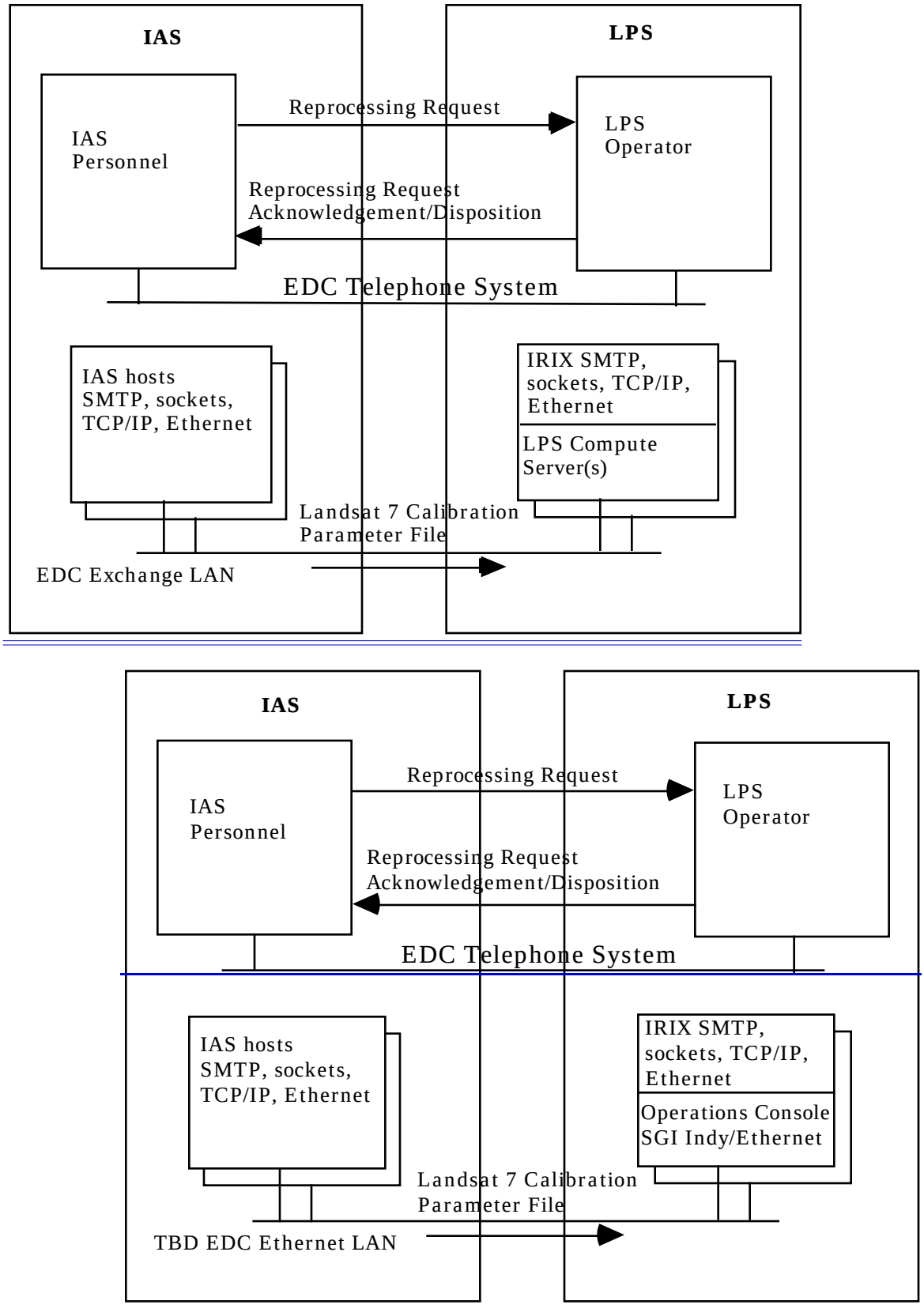

Figure 1.1 IAS-LPS Facilities/Systems Flow Diagram

Figure 1-1: IAS-LPS Facilities/Systems Flow Diagram

Section 2 — Applicable Documents

The following documents, of the exact issue date as shown, provide more detailed information regarding the LPS, the IAS, and the Landsat 7 system. If there are conflicts between the listed document and the requirements of this ICD, the requirements of this ICD shall be considered to be the superseding requirements.

2.1 Applicable Documents

1. NASA GSFC/MO&DSD, Landsat 7 Calibration Parameter File Definition, 430-15-01-002-0, September 1, 1997 July 11, 1996

2. NASA GSFC/MO&DSD, Landsat 7 Processing System (LPS) Output Files Data Format Control Book (DFCB), August 18, 1997 June 14, 1996

3. Computer Sciences Corporation, J2000.0 Coordinate Conversion Software Mathematical Background and System Description, CSC/SD-89/6148, September 1989.

4. —Lockheed-Martin Astro Space, Landsat 7 System Program Coordinate System Standard, Revision B, 23007610A, December 2, 1994.

5. U.S. Geological Survey / EROS Data Center, EDC Landsat 7 Network System Description, DHF-OPS-004, September 1997

2.2 Reference Documents

These documents are used for background information.

1. National Aeronautics and Space Administration (NASA) Goddard Space Flight Center (GSFC) Landsat 7 Detailed Mission Requirements, May 15, 1995.

2. —MO&DSD Mission Operations Concept Document for the Landsat 7 Ground System, June 5, 1995

System, June 5, 1995.

3.NASA GSFC/MO&DSD, Landsat 7 Processing System (LPS) Functional and Performance Specification (F&PS), Revision 1, 560-8FPS/0194, July 28,1995.

4.NASA GSFC/MO&DSD, Landsat 7 Image Assessment System (IAS) Element Specification, 430-15-01-001-0, October 1996.

5.NASA GSFC/MO&DSD, Landsat 7 Processing System (LPS) Operations Concept, Revision 2, 560-3OCD/0194, September 22, 1997April 15, 1996.

6.NASA GSFC/MO&DSD, Landsat 7 Image Assessment System (IAS) Operations Concept, (No Document Number).

7.Lockheed-Martin Missile & Space, Landsat 7 System Data Format Control Book (DFCB), Volume 4 - Wideband Data, 23007702-IVC, Revision FC, May 29, 1997April 4, 1996.

8.GSFC/MO&DSD, Systems Management Policy, MDOD-8YMP/0485, July July, 1986.

9.U.S. Geological Survey / EROS Data Center, EDC Landsat 7 Operations Concept, DHF-OPS-001, September 1997

Section 3. Interface Design

This section describes all information and products transferred between the IAS and the LPS.

3.1 Product Summary Chart

Table 3-1 summarizes the products and information to be transferred between the IAS and the LPS.

Table 3-1: Interface Product/Information Summary Chart

Product or Information Name --------->	Landsat 7 Calibration Parameter File	Re-Processing Request	Re-Processing Request Disposition
From - To Orgn.	IAS - LPS	IAS - LPS	LPS - IAS
ICD Section	3.2	3.3	3.4
Description / Purpose	Supplies Landsat 7 calibration parameters for LPS Processing	Requests reprocessing of a Landsat 7 contact period	Informs IAS on the disposition of a reprocessing request
Mission Phase	All	All	All
Accuracy/ Completeness	Each version of the file contains complete set of Landsat 7 calibration parameters	Includes contact period identification (from LPS Metadata)	Includes contact period identification (from reprocessing request) and disposition information
Delivery Schedule	Nominal 90 days	As required, maximum one per day	As required
Time Span	~~From effective date till replaced by IAS with a new one (~~Nominal 90 days~~)~~	Not Applicable	Not Applicable
Transmission Medium/Protocol	File Transfer Protocol (FTP) / Electronic Mail	Voice / Paper / Electronic Mail	Voice /Paper / Electronic Mail
Volume Estimate	Up to 1 megabytes (MB)	Not Applicable	Not Applicable
Security Exception	None	None	None

The following sections provide more detail on the characteristics of each interface product or information item.

3.2 Landsat 7 Calibration Parameter File

This section explains the utilization of the Calibration Parameter File by the LPS and the protocol for it's transfer.

3.2.1 Description

The Landsat 7 calibration parameter file specifies calibration, radiometric, and geometric correction values to be used in processing the Landsat 7 data. The LPS receives the complete Landsat 7 calibration parameter file from the IAS, but uses only a few calibration parameters in its Level 0R processing operations. Complete details on the Landsat 7 calibration parameter file are contained in Applicable Document 2.12.1 (Landsat 7 Calibration Parameter File Definition). The LPS uses the following parameters, as called out in the Landsat 7 calibration parameter file, in its Level 0R processing operations:

a. CPF_File_Name~~Version_Number~~ – This parameter identifies the file name and~~a~~ unique version number for each ~~new~~ Landsat 7 calibration parameter file provided by IAS to LPS. The LPS saves the full Landsat 7 calibration parameter file name, which includes version number information, in the LPS metadata file produced for each subinterval. This file name is also stored in the LPS database as IAS_Param_File_Name. ~~When LPS uses a Landsat 7 calibration parameter file in Level 0R processing of a subinterval, it saves the Landsat 7 calibration parameter file version number information (Version_Number) in the metadata file produced for the subinterval. The LPS renames this parameter to L7_CAL_PARAM_FILE_VERSION_NO before saving it in the metadata file.~~

b. Effective_Date_Begin – This parameter identifies the Julian date when designated Landsat 7 systems (such as IAS, LPS and EDC~~LP~~ DAAC) should begin using the latest Landsat 7 calibration parameter file in their operations. This date is carefully chosen by the Landsat 7 Project to allow sufficient time (a minimum of 7 working days) for testing and/or validation of the latest Landsat 7 calibration parameter file by Landsat 7 systems. During Landsat 7 operations, Landsat 7 systems use the effective date information to isolate problem output products/files (since the effective date) associated with the current version of the Landsat 7 calibration parameter file.

c. ETM+ sensor alignment parameters are required for aligning band-detector data lines during Level 0R processing and constructing band and calibration data files. These parameters provide correction for the ETM+ band-detector layout geometry (or instantaneous field of view (IFOV) errors during Level 0R processing. They include:

1. Forward_Even_Detector_Shift – This parameter provides 8 sensor data alignment values, one each for 8 ETM+ bands. Each parameter value specifies an integer-pixel shift, in the range from -40 to +240 pixels (or bytes), for aligning the scan data lines produced from even numbered detectors of a band in an ETM+ forward scan. A positive (+) value suggests a left-to-right (West-to-East) pixels-shift (bytes-shift) of even numbered detector data. A negative (-) value indicates a right-to-left (East-to-West) pixels-shift.

2. Forward_Odd_Detector_Shift – This parameter provides 8 sensor data alignment values, one each for 8 ETM+ bands. Each parameter value specifies an integer-pixel shift, in the range from -40 to +240, for aligning the scan data lines produced from odd numbered detectors of a band in an ETM+ forward scan. A positive (+) value suggests a left-to-right (West-to-East) pixels-shift (bytes-shift) of odd numbered detector data. A negative (-) value indicates a right-to-left (East-to-West) pixels-shift.

3. Reverse_Even_Detector_Shift – This parameter provides 8 sensor data alignment values, one each for 8 ETM+ bands. Each parameter value specifies an integer-pixel shift, in the range from +240 to -40, for aligning the scan data lines produced from even numbered detectors of a band in an ETM+ reverse scan. A positive (+) value suggests a right-to-left (East-to-West) pixels-shift (bytes-shift) of even numbered detector data. A negative (-) value indicates a left-to-right (West-to-East) pixels-shift.

4. Reverse_Odd_Detector_Shift – This parameter provides 8 sensor data alignment values, one each for 8 ETM+ bands. Each parameter value specifies an integer-pixel shift, in the range from +240 to -40, for aligning the scan data lines produced from odd numbered detectors of a band in an ETM+ reverse scan. A positive (+) value suggests a right-to-left (East-to-West) pixels-shift (bytes-shift) of even numbered detector data. A negative (-) value indicates a left-to-right (West-to-East) pixels-shift.

d. (Deleted per CCRs LPS960077 and LPS96085)

e. (Deleted per CCRs LPS960077 and LPS96085)

f. Semi_Major_Axis – This parameter specifies the radius of the Earth at the Equator. It is required by LPS for WRS scene determination during Level 0R processing.

g. Semi_Minor_Axis – This parameter specifies the radius of the Earth at the Pole. It is required by LPS for WRS scene determination during Level 0R processing.

h. Attitude_To_ETM+_Matrix – This is a transformation matrix from ETM+ line of sight at center of mirror scan to spacecraft body coordinates. It is required by LPS for WRS scene determination during Level 0R processing.

i. BnX_Current – These parameters (also known as radiometric calibration coefficients –"gains") are provided for each ETM+ band (n = 1 – 8) and its gain conditions (X = "L" (Low) and "H" (High)) in the Landsat 7 calibration parameter file. These calibration parameters (a set of 2 gain values (highs and lows) for each ETM+ band) provide nominal gains to be applied by LPS to Level 0 data before performing cloud cover assessment.

j. BnX_ACCA_Bias – These parameters (also known as radiometric calibration coefficients – "ACCA nominal offsets") are provided for each ETM+ band (n = 1 – 8) and its gain conditions (X = "L" (Low) and "H" (High)) in the Landsat 7 calibration parameter file. These calibration parameters (a set of 2 ACCA bias values, one each for the high and low gains of each ETM+ band) provide nominal offsets to be applied by LPS to Level 0 data before performing cloud cover assessment.

k. UT1_UTC – This parameter consists of an array of time differences between the UT1 and UTC times over a period of 180 days. The LPS uses these time coefficients to calculate the Greenwich Hour Angles (GHA) required for WRS scene determination during Level 0R processing.

3.2.2 Mission Phase

This interface communication is supported in all phases of the Landsat 7 mission.

3.2.3 Format

The format (Parameter name, data type, range, precision, and unit of measures) of the Landsat 7 calibration parameter file is specified in Applicable Document 2.1.1 (Landsat 7 Calibration Parameter File Definition).

3.2.4 Accuracy/Completeness

The IAS shall always provide a complete set of Landsat 7 calibration parameters (including those defined in Section 3.2.1) in a single file. Each calibration

parameter file shall be stand alone in that it will include values that are updated as well as values that have not changed. An updated/latest Landsat 7 calibration parameter file shall include both values that have been revised and values that are unchanged since the last delivered version of the file.

3.2.5 Data Transfer

IAS personnel shall inform LPS operations, via voice, ekectronic mail, or a hardcopy message, ofabout the availability of each new version of the Landsat 7 calibration parameter file at thean IAS host. The IAS shall provide this message to LPS operations at least 7 working days before the effective date of the latest Landsat 7 calibration parameter file (noted as Effective_Date_Begin in the file) to facilitate a LPS sanity check. IAS personnel shall provide the following information to LPS personnel for locating and transferring the Landsat 7 calibration parameter file from the IAS host:

a. IAS host name/identification

b. Login user name and password for LPS

c. Directory path information for locating the Landsat 7 Calibration Parameмter File on IAS host

LPS personnel shall use File Transfer Protocol (FTP) procedures to copy and/or transfer the latest version of the Landsat 7 calibration parameter file from the IAS host to LPS host(s). LPS personnel shall be responsible for the checkout and validation of the latest Landsat 7 calibration parameter file in LPS Level 0R processing operations. LPS personnel shall inform IAS personnel, via voice, electronic mail, or a hardcopy message, of any problem encountered during the checkout of the Landsat 7 calibration parameter file in LPS operations. The IAS and LPS personnel shall coordinate in resolving all problems with the latest version of the Landsat 7 calibration parameter file. IAS personnel may, if necessary to resolve LPS checkout problems, provide an updated/corrected version of the Landsat 7 calibration parameter file on the IAS host.

LPS personnel shall begin using the latest version of the Landsat 7 calibration parameter file on the eEffective d Date (starting at midnight) specified in the file. IAS personnel shall be responsible for ensuring that all Landsat 7 ground systems, including LPS, have successfully switched over to the latest version of the Landsat 7 calibration parameter file on the effective date specified in the file.

3.2.6 Delivery Schedule

During mission readiness testing and in-orbit testing, the IAS shall provide new Landsat 7 calibration parameter files at any rate necessary to support testing.

During normal operations, the IAS will normally provide a new Landsat 7 calibration parameter file every 90 days.

3.2.7 Timespan

The existing version of the Landsat 7 calibration parameter file is valid for operational use by LPS until a new/later version of the Landsat 7 calibration parameters is received and successfully checked out in LPS Level 0R processing test operations. Once put into operations on the effective date, a nominal timespan of 90 days is expected for each version of the Landsat 7 calibration parameters.

3.2.8 Transmission Medium (TBR)

3.2.8.1 Description

The Landsat 7 calibration parameter file shall be transmitted from the IAS to the LPS via an EDC supplied NetworkEthernet LAN to which both the IAS and LPS hosts or consoles are connected. See Applicable Document 2.1.5 (EDC Landsat 7 Network System Description).

3.2.8.2 Prime Medium

The prime transmission medium for Landsat 7 calibration parameter file transfer is the EDC LAN. Table 3-2 provides specific details on the transmission medium used in the electronic transfer of the Landsat 7 calibration parameter file.

3.2.8.3 Backup Medium

No back-up and/or physical media is provided for transferring the Landsat 7 calibration parameter file to LPS when the EDC LAN is down.

3.2.9 Volume Estimate

The size of the Landsat 7 calibration parameter file is expected to be no greater than one megabytes.

3.2.10 Security Exceptions

The interface shall conform to EDC security standards in all cases.

~~**Table 3-2: Landsat 7 Calibration Parameter File Transmission - Prime Medium**~~

3.3 Reprocessing Request

This section describes a reprocess request, it's format, the exchange protocol, and delivery schedule.

3.3.1 Description

A reprocessing request notifies the LPS that level 0R processing is to be performed again on a specified Landsat 7 contact period's data.

3.3.2 Mission Phase

The communication of this request is supported in all phases of the Landsat 7 mission.

3.3.3 Format

IAS personnel shall include the following information, available from the metadata file (Applicable Document 2.2.2) for the subinterval (and/or the contact period) requiring Level 0R reprocessing, in a reprocessing request to the LPS:

a. Subinterval start and stop times (SUBINTERVAL_START_TIME and SUBINTERVAL_STOP_TIME) obtained from the LPS metadata file.

b. Metadata file name associated with the subinterval requiring reprocessing by LPS. The metadata file name is in the format "L7XsssfnYYDOYHHuuv.xxx" as defined in Applicable Document 2.2.8 (Landsat 7 Processing System (LPS) Outputs Files Data Format Control Book).

c. Landsat 7 contact period information (CONTACT_PERIOD_START _TIME and CONTACT_PERIOD_STOP_TIME) from the LPS metadata file)

d. (deleted; the Landsat 7 X-band frequency identification "X" is included in the LPS metadata file name)

e. (deleted; the LPS string number "n" is included in the metadata file name)

f. (deleted; the Level 0R file version number "v" is included in the LPS metadata file name)

g. Reprocessing_Reason – IAS supplied alphanumeric text to describes the reason for requesting LPS operations to reprocess the 30-day tapes containing data from a specific contact period. This text field shall be limited to 100 characters (bytes).

LPS personnel shall use the information contained in the IAS request to identify and verify tape labels and to retrieve two raw wideband data tapes from the 30-day storage for Level 0R reprocessing. The two retrieved tapes will contain raw wideband data from the I and Q channels of the X-band (implies frequency identification) for the contact period requiring reprocessing by the LPS. The LPS shall reprocess the entire contact period stored on the two I and Q channel raw data tapes to fulfill the IAS reprocessing request.

3.3.4 Accuracy/Completeness

IAS personnel shall provide all information (as specified in Section 3.3.3) identifying the Landsat 7 contact period to be reprocessed by the LPS.

3.3.5 Data Transfer

IAS personnel shall submit reprocessing requests via voice and/or a hardcopy message to LPS operations. EDC defined operational procedures will be used by IAS for submitting and by LPS for receiving, logging and servicing reprocessing requests.

3.3.6 Delivery Schedule

The IAS is expected to issue no more than one reprocessing request per day to the LPS. The LPS can service at most 1 reprocessing request per day from IAS.

3.3.7 Timespan

A reprocessing request submitted by IAS to LPS shall be valid until a disposition message is provided by LPS to IAS or a reprocessing request cancellation message is given by IAS to LPS.

3.3.8 Transmission Medium

3.3.8.1 Description

Reprocessing requests are operator-to-operator transmissions via voice and/or a hardcopy message.

3.3.8.2 Prime Medium

The prime medium is the EDC telephone system. The IAS operator shall contact/dial the LPS operator/telephone number to request Level 0R reprocessing of the raw wideband data (30 day tapes) from a specific Landsat 7 contact period.

3.3.8.3 Backup Medium

A written reprocessing request containing the information specified in section 3.3.3 is the back-up transmission medium. Written requests shall be delivered to the LPS operator in accordance with existing Landsat 7 operations procedures at EDC.

3.3.9 Volume Estimate

Not Applicable (voice/paper requests)

3.3.10 Security Exceptions

There are no security exceptions for this interface.

3.4 Reprocessing Request Disposition

This section describes the disposition of reprocessing requests, their format, exchange protocol, and delivery schedule.

3.4.1 Description

A reprocessing request disposition informs IAS personnel of whether a reprocessing request has been included in the LPS production schedule or it cannot be honored.

3.4.2 Mission Phase

The communication of this product is supported in all phases of the Landsat 7 mission.

3.4.3 Format

LPS personnel shall include/use information provided in the IAS reprocessing request (see section 3.3.3) for composing the reprocessing request disposition message. LPS personnel shall further state the disposition of the reprocessing request by including one of the following status:

a. The date and time the IAS request has been scheduled for reprocessing by LPS.

b. The reprocessing request cannot be honored because the raw wideband data to be reprocessed is not available in the 30 day storage.

c. The request cannot be honored in a timely fashion (within two weeks) either due to LPS workload/backlog or an LPS string failure.

d. The reprocessing request has been canceled by the IAS.

3.4.4 Accuracy/Completeness

LPS personnel shall ~~always~~ provide all information identifying the IAS reprocessing request, the Landsat 7 contact period to be reprocessed and the disposition status.

3.4.5 Data Transfer

LPS personnel shall inform IAS personnel regarding the disposition of their reprocessing requests via voice, electronic mail, ~~and~~/or paper. EDC defined

operational procedures will be used by LPS for providing and by IAS for receiving and logging reprocessing request dispositions.

3.4.6 Delivery Schedule

LPS personnel shall provide a disposition to IAS personnel within one hour of the receipt of a reprocessing request. LPS personnel shall provide an updated disposition to IAS personnel when a requested Level 0R reprocessing is complete or if unexpected problems are encountered during Level 0R reprocessing.

3.4.7 Timespan

A disposition for a reprocessing request is valid until a reprocessing request is fulfilled, canceled or a new disposition is provided to the IAS.

3.4.8 Transmission Medium

3.4.8.1 Description

Reprocessing request dispositions are provided via operator-to-operator communication using voice/telephone, electronic mail, ~~and/~~or paper.

3.4.8.2 Prime Medium

The prime medium is the EDC telephone system. The LPS operator contacts~~/dials~~ the IAS operator~~/console telephone number~~ to deliver the reprocessing request disposition.

3.4.8.3 Backup Medium

A written reprocessing request disposition containing information specified in section 3.4.3 is the back-up transmission medium. The written dispositions shall be delivered to IAS personnel in accordance with the Landsat 7 operations procedure in force at EDC.

3.4.9 Volume Estimate

Not Applicable (voice/paper requests)

3.4.10 Security Exceptions

There are no security exceptions for this interface.

Abbreviations And Acronyms

ACCA	Automated Cloud Cover Assessment
CCR	Configuration Change Request
DAAC	Distributed Active Archive Center
DCN	Document Change Notice
DFCB	Data Format Control Book
ECS	EOSDIS Core System
EDC	EROS Data Center
EDC DAAC	EROS Data Center Distributed Active Archive Center
EROS	Earth Resources Observation System
ETM+	Enhanced Thematic Mapper plus
FDDI	Fiber Distributed Data Interface
F&PS	Functional and Performance Specification
FTP	File Transfer Protocol
GHA	Greenwich Hour Angle
GS	Ground Segment
GSFC	Goddard Space Flight Center
IAS	Image Assessment System
ICD	Interface Control Document
IFOV	Instantaneous Field of View
IP	Internet Protocol
LAN	Local Area Network
~~LP DAAC~~	~~Land Processes Distributed Active Archive Center~~
LPS	Landsat 7 Processing System
L0R	Level Zero Reformatted
Mbps	megabits per second
MO&DSD	Mission Operations and Data Systems Directorate
NASA	National Aeronautics and Space Administration
ODL	Object Description Language
SGI	Silicon Graphics, Incorporated
SMTP	Simple Mail Transport Protocol
TBD	To Be Defined/Determined
TBR	To Be Reviewed/Resolved
TBS	To Be Supplied
TCP	Transport Control Protocol

USGS	United States Geological Survey
UTC	Universal Time, Coordinated
WRS	Worldwide Reference System